

**Alcide d'Orbigny's South American Expedition
(1826-1833)**

By HARRIET HORNBLOWER

By 1834, much of the fauna and flora of Brazil and Peru had been collected and described by such eminent naturalists as Alexander von Humboldt and Augustin Saint-Hilaire. The rest of the South American continent to the south remained mostly uninvestigated. The Muséum National d'Histoire Naturelle conceived an ambitious project to fill this lacuna which, at the request of Geoffroy Saint-Hilaire, was undertaken by Alcide Charles Victor Dessalines d'Orbigny (1802-57). Orbigny readily assented, as such an expedition would be an invaluable opportunity for a young and aspiring naturalist.

Saint-Hilaire chose Orbigny because his research had already revealed an ability to clarify and impose new order on hopelessly inadequate systematics. He had separated the Foraminifera from the Cephalopoda which Lamarck had failed to do.

A foundation in zoology had been provided to him by his father, Charles-Marie Dessalines d'Orbigny (1770-1856), a naval surgeon with a passionate interest in natural history. He took his sons, Alcide and Charles, on numerous collecting trips. The Orbignys worked on the marine animals of the coast of Aunis and Vendée, and with Fleuriau de Bellevue, founded the first French regional museum at La Rochelle.

From youth, Alcide had been in contact with other naturalists: Savigny, Cuvier, Audouin, and Milne-Edwards.

On July 26, 1826 Orbigny sailed from Brest, and on September 24 arrived at Rio de Janeiro. Two weeks later he sailed to Montevideo, arriving on October 30 and for several months explored Uruguay. On February 14 he left Buenos Aires, journeying up the Paraná to Rosario and then on to Corrientes. For more than a year, he remained in the Corrientes region making excursions into Chaco and Guaraní territory. In December, he reached the frontiers of Paraguay, which he would have investigated had its dictator, Dr. Francia, not previously taken Bonpland, Humboldt's botanist, captive.

Leaving Corrientes at the end of May, he sailed down the Paraná to Buenos Aires. On January 2, 1829, Orbigny departed for the Río Negro, and for nine months he explored Patagonia.

Warring factions made an overland expedition from Buenos

Aires to Valparaiso impossible; so he went by sea around the Horn to Valparaiso, Chile arriving on February 16, 1830.

After a visit to Santiago, Orbigny learned upon returning to Valparaiso that President Santa Cruz, "a friend of the sciences", had requested his services in evaluating the riches of Bolivia. The offer was providential, for it not only gave Orbigny access to new zoogeographic zones, but afforded him badly needed financial assistance. Orbigny made an ascent of the Cordillera as he journeyed into Bolivia. Once in Bolivia he spent two years investigating the *Yungas*.

In Santa Cruz Province, while exploring the tributaries of the Madeira by *piroque*, he made extensive zoological, geographical and ethnological observations in almost unknown areas.

In Callao, Peru, Orbigny met M. Fontaine, a French physician for *The Griffon*. They collected marine mollusks in the vicinity. Fontaine continued to collect coastal, marine species as far north as Piura and later sent them to Orbigny in Paris.

On returning to Paris, Orbigny published the results of his expedition in nine folio volumes (1835-47). Elie de Beaumont described the work as presenting "in an almost encyclopedic framework, one of the most extensive monographs ever given on any region of the earth." Volume 5, part 3, is devoted to mollusks; many new species are described. [Some had been briefly described previously (Orbigny 1835).]

Orbigny's expedition served as a model for the scientific investigations of other unexplored regions. His contributions to South American geology, paleontology and malacology were monumental and became foundations in these fields.

Orbigny made one of the most extensive collections of the land and freshwater mollusks ever made in South America. The previous collection of shells made by Humboldt and Bonpland, described by Valenciennes, is of nugatory importance. Other naturalists such as Spix and Wagner, and Moricand described only the mollusks of Brazil.

Besides figuring over a hundred new mollusks, Orbigny made general observations on their habitats and a new synthesis of their distribution. Latitudinally he divided the continent into three zones, using gastropods and birds as examples. He noted a sharp diminution in species density from the tropical to the cold zone. He also recognized faunal zones in the distribution of the marine mollusks, concepts which were later augmented by Edward Forbes.

Many of Orbigny's speculations have been since discarded; yet he did much to organize and clarify South America's faunal, geological, and paleontological record, an immense accomplishment for a single man who generally travelled alone under perilous conditions.

Orbigny sold his shells, for pecuniary reasons, to the British Museum (Nat. Hist.), all of them glued to cards, with an x on the figured specimens. The over 800 lots were described by Gray (1854). The freshwater bivalves were critically examined by Johnson (1971).

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